Registration of Crop Cultivars

REGISTRATION OF KARL BARLEY
(Reg. No. 147)

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‘Karl’ barley (Hordeum vulgare L.), CV 15487, was developed cooperatively by the ARS-USDA, and the Idaho Agric. Exp. Stn. and released by these agencies in January 1974. The USDA Barley and Malt Lab., Madison, Wis., and the Malting Barley Improvement Assoc. (MBIA), Milwaukee, Wis., cooperated in testing malting and brewing quality. Plant-scale evaluations of malting and brewing quality were initiated in 1972 in cooperation with the MBIA. Great Western Malting Co., Vancouver, Wash., assisted with the initial field-scale increase for plant-scale evaluations. Karl was classified as acceptable for malting and brewing by the MBIA in November 1974.

Karl is from a cross of ‘Trailiy’/‘Good Delta’/‘Everest’/‘Traill’. An F4 selection was made at Aberdeen in 1963 and tested as 63Ab2987 in subsequent years. 63Ab2987 was entered in the Rocky Mountain Barley Nursery in 1968. Breeder seed is a composite of seven lines of 63Ab2987 which originated as F0 plant selections.

Karl is a six-rowed, midseason, ‘Traill-type spring malting barley. The aleurone is white and the lemma typically thin. It has lax, midlong to long spikes with rough awns, short rachilla hairs, and numerous short hairs on the rachis edges. The hull is adhering and wrinkled with few to several barbs occurring on moderately prominent lateral veins. The central vein of the kernel is prominent, especially over the germ. The crease is shallow, relatively narrow, closed at the base, and flaring toward the awn end. The glume is covered with short hairs. The point of attachment is a depression tending toward a crease. Karl has good test weight and kernel weight when grown under irrigation in southern Idaho. Compared with ‘Trailiy’, Karl is usually 7 to 10 cm shorter, superior in lodging resistance, and normally heads 2 to 3 days earlier. It is slightly superior to ‘Traill in shatter resistance in southern Idaho, less susceptible than ‘Steveland’ and ‘Woodvale’. Karl is more resistant to covered [Ustilago hordei (Pers.) Logerh.] and loose smut [U. nuda (Jens.) Rostr.] and powdery mildew (Erysiphe graminis f. sp. hordei Em. Marchal). Karl is not recommended for non-irrigated production in low rainfall areas.

Karl (or 63Ab2987) yielded 8.3%, more than ‘Trailiy’ in station-years of testing (1967-74) under irrigation in Idaho. It averaged about the same as ‘Trailiy’ in station-years of testing in the Rocky Mountain Barley Nursery in 1968-70. Karl yielded 7.5% less than ‘Steveland’ at Aberdeen, but 3.8% more under irrigation at Twin Falls.

Karl averaged 82.3% malt extract in four Idaho tests in 1973, compared with 76.8% for ‘Trailiy’. The two cultivars were similar in fine-coarse difference. Karl averaged 39.0, 135, and 32.6 in wort N/malt N ratio (%), diastatic power (Deg), and alpha amylase (20° Units), respectively, for ‘Trailiy’. Karl averaged 82.3% malt extract in four Idaho tests in 1973, compared with 76.8% for ‘Trailiy’. The two cultivars were similar in fine-coarse difference. Karl averaged 39.0, 135, and 32.6 in wort N/malt N ratio (%), diastatic power (Deg), and alpha amylase (20° Units), respectively, for ‘Trailiy’.

Breeder and foundation seed will be maintained by the Aberdeen Research and Extension Center, P.O. Box AA, Aberdeen, ID 83210 and the Tetonia Research and Extension Center, P.O. Box 72, St. Anthony, ID 83445.


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